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DEPARTMENT OF AGRICULTURE

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SUGAR REPORTS

VOL. 19-50
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SUGAR REPORTS

U. S. DEPARTMENT OF AGRICULTURE • PRODUCTION AND MARKETING ADMINISTRATION • SUGAR BRANCH

Washington, D. C.

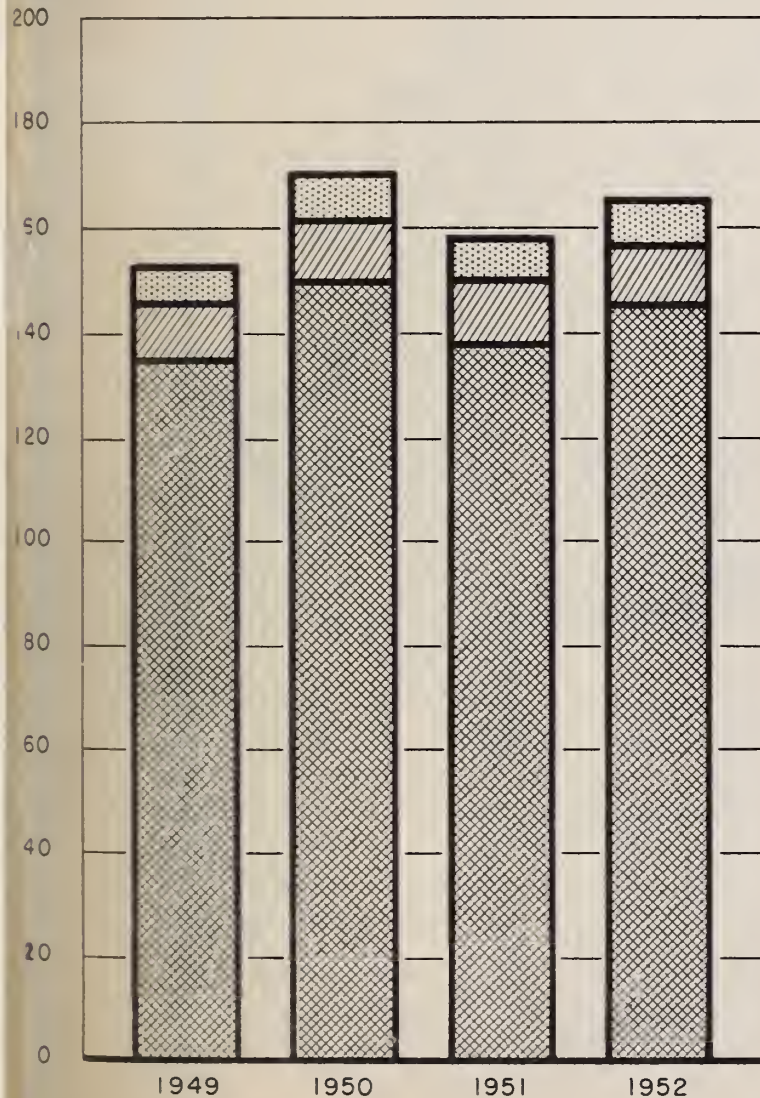
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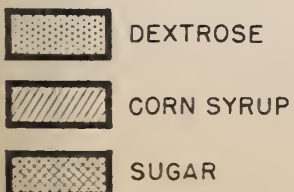
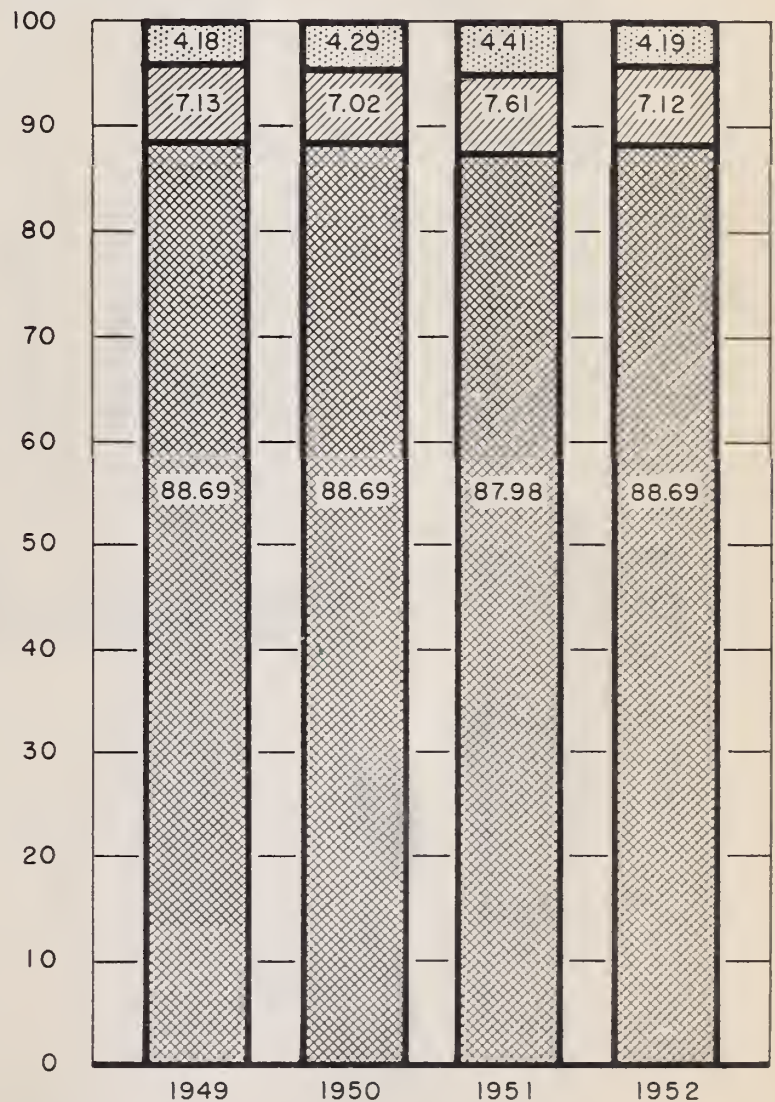
FIGURE 1

COMPARISON OF DELIVERIES OF REFINED SUGAR, CORN SIRUP AND DEXTROSE, UNITED STATES, 1949-1952

QUANTITY, CWT.; DRY BASIS
(000,000)

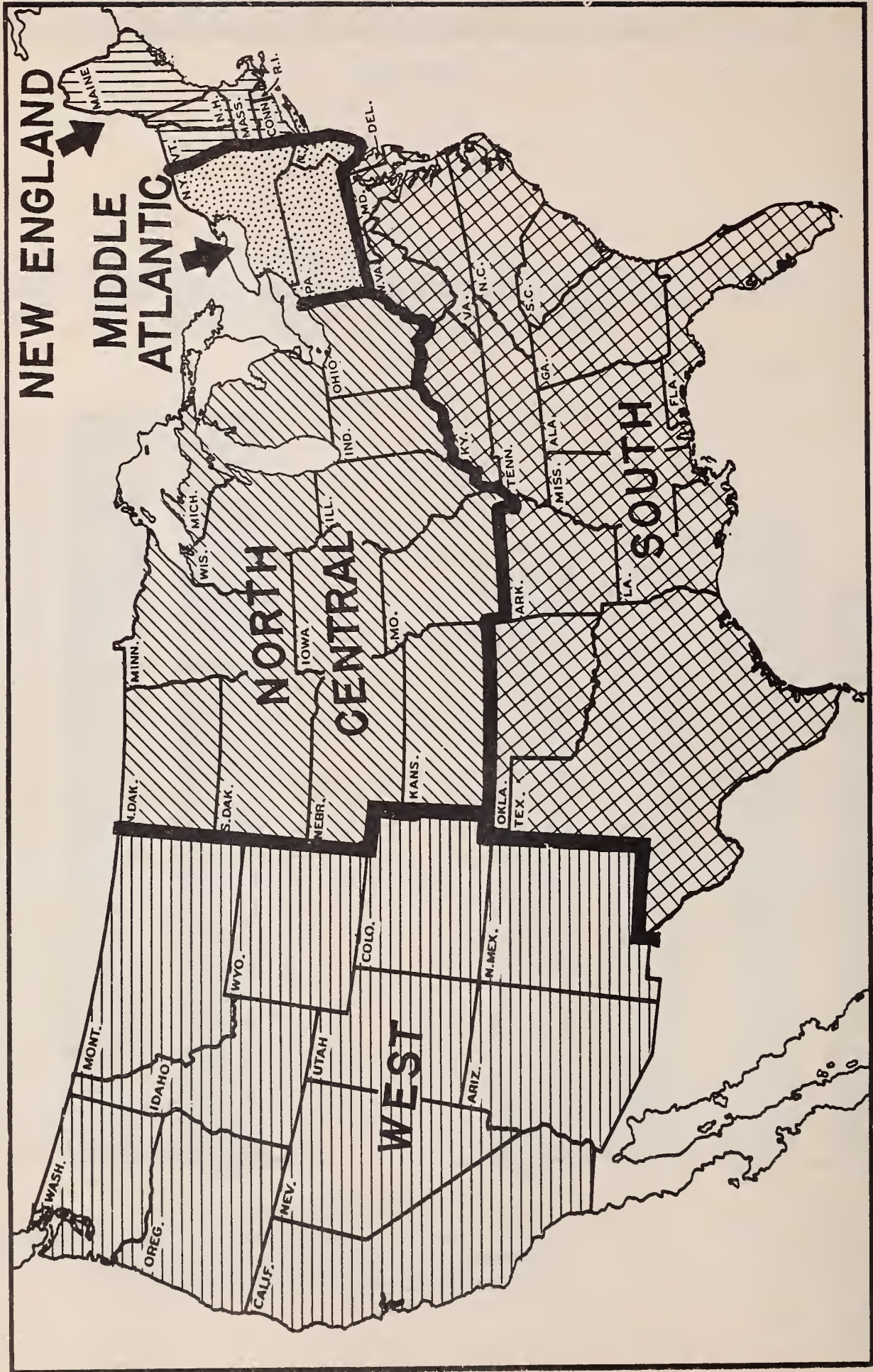


PERCENT



SOURCE: SUGAR STATISTICS FROM REPORTS OF PRIMARY DISTRIBUTORS TO THE SUGAR BRANCH, P.M.A.; DEXTROSE STATISTICS FROM REPORTS OF DEXTROSE MANUFACTURERS TO THE SUGAR BRANCH, P.M.A.; CORN SYRUP STATISTICS FROM CORN REFINERS' REPORTS TO PRICE WATERHOUSE, DISTRIBUTED THROUGH GRAIN BRANCH, P.M.A.

CLASSIFICATION OF STATES FOR DETERMINING REGIONAL SUGAR DELIVERIES



Recent Trends in the Distribution of Sugar,
Corn Sirup and Dextrose

Figure 1 and Tables 1 and 2 show trends in deliveries of sugar, corn sirup and dextrose in total and by type of buyer from 1949 to 1952. It should be kept in mind in reviewing these data that they are not adjusted for customer inventory changes from year to year and therefore represent "deliveries" and not use by the buyer concerned. In addition deliveries by type of buyer in the case of sugar are not reported by a few primary distributors. The sum of deliveries by types of buyer is usually 3 or 4 percent below deliveries as reported by primary distributors.

However, even with these qualifications, delivery trends of the three principal sweeteners may be evaluated. Reports by types of buyer are incomplete by about the same percent each year and lack of reporting is concentrated among essentially the same distributors. Further, inventory changes tend to be parallel for the three major sweeteners and to offset each other over a period of years. It should be noted at this point that the change in total sugar inventories in the hands of industrial users, retailers and wholesalers, from the beginning to the end of each year has been checked. In 1949, inventories declined about 27 percent; in 1950 there was an increase of 126 percent; in 1951 a decrease of 44 percent, and in 1952 another decrease of 13 percent.

Since 1949 the relationship between the quantities of sugar, corn sirup and dextrose distributed for all purposes has remained amazingly stable. (Figure 1) In fact the stability of this relationship has been so marked that sugar constituted exactly the same proportion or 88.69 percent of the aggregate distribution of the three major sweeteners during 1949, 1950, and 1952. The quantity of sugar distributed in proportion to the total declined about 3/4 of 1 percent in 1951 but regained its 1949 and 1950 position in 1952.

There was almost no change in the proportionate total distribution of corn sirup and dextrose from 1949 to 1952, although shifts occurred in the intervening years. In 1952 dextrose had gained only .01 percent over its 1949 position. Since the percentages represented by sugar were exactly the same in each of those years, this slight gain was at the expense of corn sirup. Even though there was practically no change in relationship in total deliveries of corn sirup, dextrose and sugar from 1949 to 1952, some rather significant changes took place in the relative quantities delivered to the various types of buyers. (Table 2) Deliveries of sugar to beverage manufacturers increased from slightly less than 93 percent of total deliveries of sugar and corn sweeteners in 1949 to just over 95 percent in 1952. Sugar deliveries to multiple food processors also showed a proportionate increase. Meanwhile, sugar deliveries to producers of non-foods

declined percentagewise. Little change was evident in proportionate sugar deliveries to other types of buyers but relative sweetener use by types of buyers varied somewhat.

Shifts also occurred in deliveries of corn sirup and dextrose to certain types of buyers, both in relation to sugar and in relation to each other. For instance, all the proportionate increase in sugar deliveries to multiple food manufacturers was brought about by a decrease in corn sirup deliveries. Corn sirup also lost ground to dextrose in sweetener deliveries to this type of buyer. In the case of the types of processor in the category "canned, bottled, frozen foods, jams, jellies, preserves, etc." sugar deliveries showed no significant change. But, deliveries of corn sirup increased very substantially while dextrose deliveries decreased in about the same proportion. Sweetener deliveries to non-food producers were marked by an increase in dextrose deliveries while deliveries of sugar and corn sirup declined. Ice cream and dairy product manufacturers now receive a larger percent of their corn sweeteners in the form of sirup whereas in 1949 and 1950 dextrose comprised the largest proportion of corn sweetener going to this type of buyer.

Conclusions

The lack of change in the relationship from 1949 to 1952 between the total quantities of sugar and corn sweeteners delivered in the United States halts a long time downward trend in the proportion of total deliveries represented by sugar. In a study published in 1951 ^{1/}, it was reported that "Per capita consumption of the three primary sweeteners (sugar, dextrose, and corn sirup) has increased 4 percent since the prewar period. Per capita consumption of the predominant sweetener, sugar, is about the same as in the prewar period, whereas that of corn sirup has increased one-fourth and dextrose consumption has more than doubled."

While the data shown here for 1949, 1950, 1951 and 1952 are deliveries and not consumption, they cover a long enough period to be indicative of consumption. Most of the user categories have stabilized their proportionate purchases of sugar and corn sweeteners. The beverage industry has increased its relative use of sugar from 93 to 95 percent of total sweeteners while the manufacturers of non-food products have increased their proportionate use of corn sweeteners.

^{1/} Competitive Relationship Between Sugar and Corn Sweeteners, by Phillip E. Jones and F. G. Thomason, Agriculture Information Bulletin No. 48, U. S. Department of Agriculture, June 1951.

The types of buyers which shifted to corn sirup and away from dextrose for their corn sweetener needs were the dairy product manufacturers and the processors of canned, bottled, and frozen foods. In the past four years these types of processors - especially canners - have greatly increased their purchases of sugar in liquid form. Since canners can use either corn sirup or dextrose without affecting the physical properties of their product, the convenience of mixing two liquid sweeteners no doubt, contributed toward the shift to corn sirup as the main corn sweetening agent. Regardless of an increase in confectioners' use of liquid sugars, their purchases of corn sirup have decreased and dextrose purchases have increased. One reason for this may be that, unlike canners, confectioners' freedom of choice is limited by the desired physical properties of individual types of confections.

Table 1. - Trends in Deliveries of Sugar, Corn Sirup, and Dextrose by Types of Buyer, United States, 1949-1952

Type of Buyer	1949			
	Sugar	Corn Sirup (cwt. dry basis)	Dextrose	Total
Bakery and allied products; cereals and cereal products	12,116,453	793,822	3,478,682	16,388,957
Confectionery and related products	12,791,125	5,692,626	277,273	18,761,024
Ice cream and dairy products	4,445,819	245,673	270,687	4,962,179
Beverages	14,264,641	342,846	734,800	15,342,287
Canned, bottled, frozen foods, jams, jellies, preserves, etc.	8,857,080	549,742	784,241	10,191,063
Multiple and all other food uses	4,015,163	2,837,559	305,988	7,158,710
Non-food products	737,423	340,650	307,539	1,385,612
Hotels, restaurants, institutions	546,658	-	-	546,658
Retail & wholesale	77,514,706	201,143 1/	208,027	77,923,876
All other deliveries, including deliveries to Government agencies	1,638,553	-	95,414	1,733,967
TOTAL	136,927,621	11,004,062	6,462,651	154,394,334

Type of Buyer	1950			
	Sugar	Corn Sirup (cwt. dry basis)	Dextrose	Total
Bakery and allied products; cereals and cereal products	12,723,819	832,028	3,973,905	17,529,752
Confectionery and related products	14,376,515	5,975,540	305,250	20,657,305
Ice cream and dairy products	5,074,003	254,375	264,172	5,592,550
Beverages	15,115,929	309,459	789,137	16,214,525
Canned, bottled, frozen foods, jams, jellies, preserves, etc.	11,009,726	779,439	749,665	12,538,830
Multiple and all other food uses	4,993,283	3,114,493	393,896	8,501,672
Non-food products	780,019	408,858	410,869	1,599,746
Hotels, restaurants, institutions	554,051	-	-	554,051
Retail & wholesale	84,216,132	243,086 1/	250,504	84,709,722
All other deliveries, including deliveries to Government agencies	1,758,747	-	149,926	1,908,673
TOTAL	150,602,224	11,917,279	7,287,324	169,806,827

Table 1. - Trends in Deliveries of Sugar, Corn Sirup, and Dextrose by Types of Buyer, United States, 1949-1952 (Con't)

Type of Buyer	1951			
	Sugar	Corn Sirup (cwt. dry basis)	Dextrose	Total
Bakery and allied products; cereals and cereal products	12,444,449	858,829	3,707,232	17,010,510
Confectionery and related products	12,450,059	5,692,230	306,912	18,449,201
Ice cream and dairy products	5,140,380	333,555	271,663	5,745,598
Beverages	14,404,373	294,466	694,027	15,392,866
Canned, bottled, frozen foods, jams, jellies, preserves, etc.	11,165,275	889,909	691,851	12,747,035
Multiple and all other food uses	4,925,558	3,317,716	411,263	8,654,537
Non-food products	793,859	398,531	496,010	1,688,400
Hotels, restaurants, institutions	575,529	-	-	575,529
Retail & wholesale	74,732,479	229,116 <u>1/</u>	221,513	75,183,108
All other deliveries, including deliveries to Government agencies	22,472,081	-	157,467	2,404,675
TOTAL	138,879,169	12,014,352	6,957,938	157,851,459

Type of Buyer	1952			
	Sugar	Corn Sirup (Cwt. dry basis)	Dextrose	Total
Bakery and allied products; cereals and cereal products	13,616,732	960,972	3,795,028	18,372,732
Confectionery and related products	12,933,144	5,656,619	398,446	18,988,209
Ice cream and dairy products	5,541,016	366,528	294,783	6,202,327
Beverages	15,365,109	265,119	530,607	16,160,835
Canned, bottled, frozen foods, jams, jellies, preserves, etc.	10,956,329	1,125,938	562,222	12,644,489
Multiple and all other food uses	5,229,833	2,843,094	472,247	8,545,174
Non-food products	915,473	400,906	467,464	1,783,843
Hotels, restaurants, institutions	520,797	-	-	520,797
Retail & wholesale	78,467,131	117,555 <u>1/</u>	220,433	78,805,119
All other deliveries, including deliveries to Government agencies	2,650,491	-	165,177	2,815,668
TOTAL	146,196,055	11,736,974	6,906,407	164,839,436

1/ Corn sirup sales in this category are made through wholesale grocers, jobbers, and sugar dealers.

SOURCE: Sugar statistics from reports of primary distributors to Sugar Branch, PMA. Dextrose statistics from reports of dextrose manufacturers to Sugar Branch, PMA. Corn sirup statistics from corn refiner's reports to Price Waterhouse; distributed through the Grain Branch, PMA.

Table 2. - Percentage Trends in Deliveries of Sugar, Corn Sirup, and Dextrose by Types of Buyer, United States 1949-1952

Type of Buyer	1949			
	<u>Sugar Percent</u>	<u>Corn Sirup Percent</u>	<u>Dextrose Percent</u>	<u>Total Percent</u>
Bakery and allied products; cereals and cereal products	73.93	4.84	21.23	100.00
Confectionery and related products	68.18	30.34	1.48	100.00
Ice cream and dairy products	89.59	4.95	5.46	100.00
Beverages	92.98	2.23	4.79	100.00
Canned, bottled, frozen foods jams, jellies, preserves, etc.	86.91	5.39	7.70	100.00
Multiple and all other food uses	56.09	39.64	4.27	100.00
Non-food products	53.22	24.58	22.20	100.00
Hotels, restaurants, insti- tutions	100.00	-	-	100.00
Retail & wholesale	99.47	0.26 1/	0.27	100.00
All other deliveries, includ- ing deliveries to Government agencies	94.50	-	5.50	100.00
TOTAL	88.69	7.13	4.18	100.00

Type of Buyer	1950			
	<u>Sugar Percent</u>	<u>Corn Sirup Percent</u>	<u>Dextrose Percent</u>	<u>Total Percent</u>
Bakery and allied products; cereals and cereal products	72.58	4.75	22.67	100.00
Confectionery and related products	69.59	28.93	1.48	100.00
Ice cream and dairy products	90.73	4.55	4.72	100.00
Beverages	93.22	1.91	4.87	100.00
Canned, bottled, frozen foods, jams, jellies, preserves, etc.	87.80	6.22	5.98	100.00
Multiple and all other food uses	58.73	36.63	4.64	100.00
Non-food products	48.76	25.56	25.68	100.00
Hotels, restaurants, insti- tutions	100.00	-	-	100.00
Retail & wholesale	99.41	0.29 1/	0.30	100.00
All other deliveries, includ- ing deliveries to Government agencies	92.14	-	7.86	100.00
TOTAL	88.69	7.02	4.29	100.00

Table 2. - Percentage Trends in Deliveries of Sugar, Corn Sirup,
and Dextrose by Types of Buyer, United States 1949-1952 (Continued)

Type of Buyer	1951			
	Sugar Percent	Corn Sirup Percent	Dextrose Percent	Total Percent
Bakery and allied products; cereals and cereal products	73.16	5.05	21.79	100.00
Confectionery and related products	67.48	30.85	1.67	100.00
Ice cream and dairy products	89.46	5.81	4.73	100.00
Beverages	93.58	1.91	4.51	100.00
Canned, bottled, frozen foods, jams, jellies, preserves, etc.	87.59	6.98	5.43	100.00
Multiple and all other food uses	56.91	38.33	4.76	100.00
Non-food products	47.02	23.60	29.38	100.00
Hotels, restaurants, insti- tutions	100.00	-	-	100.00
Retail & wholesale	99.40	0.30 <u>1/</u>	0.30	100.00
All other deliveries, includ- ing deliveries to Government agencies	93.45	-	6.55	100.00
TOTAL	87.98	7.61	4.41	100.00

Type of Buyer	1952			
	Sugar Percent	Corn Sirup Percent	Dextrose Percent	Total Percent
Bakery and allied products; cereals and cereal products	74.11	5.23	20.66	100.00
Confectionery and related products	68.11	29.79	2.10	100.00
Ice cream and dairy products	89.34	5.91	4.75	100.00
Beverages	95.08	1.64	3.28	100.00
Canned, bottled, frozen foods, jams, jellies, preserves, etc.	86.65	8.90	4.45	100.00
Multiple and all other food uses	61.20	33.27	5.53	100.00
Non-food products	51.32	22.47	26.21	100.00
Hotels, restaurants, insti- tutions	100.00	-	-	100.00
Retail & wholesale	99.57	0.15 <u>1/</u>	0.28	100.00
All other deliveries, in- cluding deliveries to Government agencies	94.13	-	5.87	100.00
TOTAL	88.69	7.12	4.19	100.00

1/ Corn sirup sales in this category are made through wholesale grocers, jobbers, and sugar dealers.

SOURCE: Sugar statistics from reports of primary distributors to Sugar Branch, PMA. Dextrose statistics from reports of dextrose manufacturers to Sugar Branch, PMA. Corn sirup statistics from corn refiners reports to Price Waterhouse; distributed through the Grain Branch, PMA.

Regional Differences in Per Capita Sugar Consumption

1. Trends in regional per capita deliveries of sugar, by types of buyer, 1949 to 1952.

Table 3 shows per capita sugar deliveries by regions in total and to restaurants, hotels, wholesalers and retailers from 1949 to 1952. These per capita totals for the United States are about 3 or 4 percent below actual deliveries because, as indicated in the preceding section, certain primary distributors do not submit data on regional deliveries broken down by types of buyer. Most of the primary distributors which do not submit reports for regions by types of buyer are those in the group of distributors serving the South and North Central regions (see figure 2 for regional classification for purposes of determining sugar deliveries.) Total reported deliveries for these regions are normally about 94 percent of actual deliveries while reports for the New England, Middle Atlantic and West regions customarily cover from 99.5 to 99.9 percent of actual deliveries. Average per capita deliveries for the United States during the 4-year period covered in this report ranged from a high of 99.94 pounds refined in 1950 to a low of 90.54 pounds in 1951 with deliveries in 1949 and 1952 averaging 92.17 and 93.86 pounds respectively. Total per capita deliveries were much the highest in the Middle Atlantic region, reflecting heavy deliveries to industrial users, especially bakers, confectioners, beverage manufacturers and multiple food processors. (See table 4) However, there was a slight decline from 1949 to 1952 in the dominant position of that region as to per capita distribution. The rest, on the other hand, gained substantially in per capita distribution due principally to increases in per capita deliveries to Government agencies, to ice cream and dairy manufacturers, canned, bottled and frozen food processors, and multiple food manufacturers. Per capita deliveries in the New England, North Central and South regions were comparatively stable. Deliveries in the South were lowest over the entire 4-year period.

The use of sugar for industrial food processing rather than direct home use is increasing, thereby continuing the long time trend noted by Jones and Thomason in the publication "Competitive Relationships Between Sugar and Corn Sweetener." ^{2/} Per capita sugar deliveries to all industrial users increased from 38.52 pounds to 41.45 pounds from 1949 to 1952 while deliveries to hotels and restaurants, wholesalers and retailers declined about $1\frac{1}{4}$ pounds per capita.

These data do not show all the deliveries to industrial users. Some of the sugar delivered to wholesalers is resold to industrial users. It is impossible to ascertain whether or not industrial users increased or decreased their relative volume of purchases from wholesalers. With per capita deliveries declining in consumer-sized packages--the principal types of packages resold to retailers--and deliveries to wholesalers holding about level (tables 3 and 5) it is reasonable to assume that the decline in sales of consumer-sized packages was compensated for by increased sales to industrial users.

^{2/} Ibid.

Table 4 shows the trends in regional per capita deliveries to each principal type of industrial user and table 5 shows deliveries separately to restaurants and hotels, wholesalers, retailers, and miscellaneous users including Government agencies.

Per capita deliveries to bakers increased slightly from 1949 to 1952. Deliveries to bakers in New England and the Middle Atlantic region declined while deliveries to bakers in the other three regions, especially the North Central area, increased.

Little change occurred in average per capita deliveries to candy makers. In addition, deliveries to confectioners by regions showed little increase or decline. Deliveries decreased about 1 pound per capita in the North Central region and increased about $1\frac{1}{2}$ pounds in New England.

There was an increase in per capita deliveries to ice cream and dairy product manufacturers. Increases were most pronounced in the North Central region and more moderate in the West and South. The Middle Atlantic region showed a decrease.

Average deliveries to beverage manufacturers increased about one-quarter pound per capita--not enough to indicate an established trend. The shifts between regions in this group were also quite minor with decreases in the North Central region and increases in New England, the Middle Atlantic area and the South.

Per capita deliveries to canners, and frozen food manufacturers increased most in the West. Increases also occurred in the North Central region and the South.

Deliveries to multiple food producers increased about $2/3$ pound per capita. Most of this increase was in the Middle Atlantic and West, although there was some increase in each region except the South.

There was a strong downward trend in per capita deliveries to retailers in all regions, particularly the South. This trend in retailer deliveries is confirmed in deliveries of consumer-sized packages. Meanwhile per capita deliveries to wholesalers and to restaurants and hotels showed little change while deliveries to miscellaneous users, principally Government agencies, increased somewhat, notably in the West.

Table 3. Per Capita Deliveries of Sugar to Industrial Users, and to Restaurants and Hotels, Wholesalers and Retailers, by regions, 1949 to 1952 ^{1/}

	<u>New England</u> Pounds	<u>Middle Atlantic</u> Pounds	<u>North Central</u> Pounds	<u>South</u> Pounds	<u>West</u> Pounds	<u>U. S. average</u> Pounds
<u>Total deliveries</u>						
1949	36.58	114.15	90.06	79.85	95.09	92.17
1950	93.83	123.57	102.26	83.66	100.73	99.94
1951	83.53	110.41	88.02	78.50	98.14	90.54
1952	86.49	111.93	92.66	81.98	100.65	93.86
<u>Deliveries to industrial users</u>						
1949	35.27	66.01	33.05	25.27	41.65	38.52
1950	38.13	71.21	37.82	28.11	45.91	42.51
1951	36.34	65.64	34.01	26.39	48.65	39.98
1952	38.71	66.76	35.66	28.50	48.00	41.45
<u>Deliveries to Restaurants and hotels, wholesalers, and retailers ^{2/}</u>						
1949	51.31	48.14	57.01	54.58	53.44	53.65
1950	55.70	52.36	64.44	55.55	54.82	57.43
1951	47.19	44.77	54.01	52.11	49.49	50.56
1952	47.78	45.17	57.00	53.48	52.65	52.41
<u>Deliveries in consumer size packages ^{3/}</u>						
1949	35.08	33.60	36.22	38.00	37.34	36.32
1950	39.09	36.75	39.90	37.30	38.16	38.17
1951	32.54	31.27	33.33	33.01	34.96	32.99
1952	33.05	32.21	33.84	32.52	37.20	33.51

^{1/} Represents 96-97 percent of deliveries by primary distributors in continental United States. Unrecorded 3-4 percent largely centered in South and North Central regions.

^{2/} Includes deliveries to the types of buyers in category "all other deliveries, including deliveries to Government agencies."

^{3/} Portion of deliveries to wholesalers and retailers that is packed in consumer size packages.

Source: P.M.A., U.S.D.A.

Table 4. Per Capita Deliveries of Sugar to Industrial Users,
by Types of User and By Regions, 1949 to 1952

Type of Industrial User	New England	Middle Atlantic	North Central	South	West	U.S. average
	pounds	pounds	pounds	pounds	pounds	pounds
<u>Bakery and Allied Products; cereals and Cereal products</u>						
1949	6.32	14.19	8.03	4.72	8.19	8.16
1950	6.32	13.61	8.99	5.10	8.35	8.44
1951	5.62	12.71	8.49	5.11	8.63	8.11
1952	4.07	12.92	9.94	5.36	8.98	8.74
<u>Confectionery and Related Products</u>						
1949	13.99	19.50	8.26	1.99	4.13	8.61
1950	15.81	21.29	10.37	2.22	4.22	9.54
1951	14.80	19.12	7.82	1.91	3.91	8.12
1952	15.51	19.16	7.99	2.20	3.83	8.30
<u>Ice cream and dairy products</u>						
1949	3.32	4.90	3.09	1.66	2.85	2.99
1950	3.30	4.87	4.13	1.72	3.34	3.37
1951	3.31	4.74	3.99	1.78	3.62	3.35
1952	3.52	4.68	4.30	1.99	3.94	3.56
<u>Beverages</u>						
1949	5.70	12.34	6.85	12.52	6.49	9.60
1950	5.65	12.76	6.56	13.72	6.92	10.03
1951	5.63	12.21	5.96	12.55	7.01	9.39
1952	6.62	13.14	5.83	13.53	6.79	9.86
<u>Canned, bottled, frozen foods, jams, jellies, preserves, etc.</u>						
1949	4.43	6.78	3.64	2.87	18.16	5.96
1950	5.27	8.04	4.71	3.90	21.28	7.31
1951	5.44	7.54	4.28	5.45	23.50	7.28
1952	4.80	6.83	4.59	3.63	21.63	7.03
<u>Multiple and other food uses</u>						
1949	1.22	7.65	2.20	0.64	1.80	2.70
1950	1.56	9.69	2.76	0.79	1.67	3.31
1951	1.36	8.40	3.32	0.71	1.98	3.21
1952	1.93	9.28	2.69	0.72	2.83	3.36
<u>Non-food products</u>						
1949	0.31	0.63	0.25	0.88	0.03	0.49
1950	0.23	0.95	0.30	0.66	0.13	0.52
1951	0.17	0.92	0.16	0.88	0.01	0.52
1952	0.17	0.75	0.33	1.06	0.01	0.59

Source: P.M.A., U.S.D.A.

Table 5. Per Capita Deliveries of Sugar to Restaurants and Hotels, Wholesalers, Retailers, and Other Deliveries (including deliveries to Government agencies), by Regions, 1949-1952

Type of buyer	New England pounds	Middle Atlantic pounds	North Central pounds	South pounds	West pounds	U.S. average pounds
<u>Hotels, restaurants, and institutions</u>						
1949	0.65	1.07	0.13	0.12	0.28	0.37
1950	0.66	1.20	0.11	0.13	0.12	0.37
1951	0.54	0.98	0.17	0.23	0.19	0.38
1952	0.61	0.96	0.11	0.14	0.21	0.33
<u>Wholesale grocers, Jobbers, Sugar Dealers</u>						
1949	31.61	28.93	40.82	37.66	35.84	36.22
1950	34.02	31.12	47.78	41.54	37.85	40.33
1951	28.41	26.00	40.12	39.29	32.62	35.35
1952	29.38	26.15	42.70	39.88	34.31	36.60
<u>Retail grocers, Chain stores, Super Markets</u>						
1949	18.65	17.02	15.58	15.68	14.53	15.96
1950	20.51	18.89	15.95	12.81	13.83	15.56
1951	17.58	16.31	13.26	11.21	12.45	13.37
1952	17.15	16.48	13.71	11.83	12.93	13.78
<u>All other deliveries, including deliveries to Government Agencies</u>						
1949	0.40	1.12	0.48	1.12	2.79	1.10
1950	0.51	1.15	0.60	1.07	3.02	1.17
1951	0.66	1.48	0.46	1.38	4.23	1.46
1952	0.64	1.58	0.46	1.63	5.20	1.70

Source: P.M.A., U.S.D.A.

2. Regional per capita deliveries of sugar adjusted to approximate regional per capita consumption, 1949.

There is no information available on per capita consumption of sugar by regions of the United States. However, the data discussed in the preceding section of regional per capita deliveries of sugar offer a fair basis for analysis of per capita consumption because the regions selected for determining delivery information generally cover such a broad area. Inter-regional shipment of sugar delivered to retailers is probably almost non-existent and inter-regional shipment of sugar delivered to wholesalers is not likely to be significant. Further, a large percentage of some of the important sugar containing processed foods is consumed in the regions in which the foods are produced.

However, per capita deliveries leave so many questions unanswered regarding consumption that a search was made for a basis for adjusting delivery data to more nearly reflect consumption. It appeared that such an adjustment could be made if adequate information were available on regional consumption of sugar containing processed foods and conversion factors used to indicate the sugar consumed in these foods. The recent year for which the most information is available on regional consumption of sugar containing foods is 1949. For that year, consumption statistics are available on confectionery, soft drinks and frozen dairy products. There are no comparable consumption data for other sugar containing processed foods and adjustment of deliveries to show sugar consumption can only be partial. But the adjustment that can be made is quite helpful in pointing up the regional sugar consumption pattern. Cookies and crackers, the bakery products most likely to cross regional lines, comprise a small percentage of total bakery production. Consequently, retention of delivery statistics for bakery products should cause little distortion of the consumption data.

Table 6 shows regional per capita sugar deliveries to confectioners, beverage manufacturers and manufacturers of dairy products; regional consumption of foods manufactured by these types of processors; and regional consumption of sugar in these foods. It is noted that the per capita consumption data cover only the important sugar containing foods processed by the manufacturers concerned. Regional consumption data are not available for the other sugar containing foods in each category. This accounts for the average United States sugar consumption figure being lower than per capita deliveries in the case of confectionery and beverages. However, dairy products deliveries were less than consumption even though a few of the sugar containing foods manufactured from dairy products are not included in the consumption figures. Two factors account for part or all of this discrepancy. First, either the conversion and weight factors used to calculate sugar content are slightly inaccurate or the frozen dairy product manufacturers used up a larger proportion of their inventories during 1949 than did industrial users generally. Second, significant quantities of the sugar in sweetened condensed milk show up in the totals for ice cream since some sweetened condensed milk is used as an ice cream ingredient. This would tend to increase calculated consumption.

The per capita consumption data for confectionery represent sales of manufacturers by regions. The per capita consumption data for soft drinks and frozen dairy products represent production. Informed persons associated with the

production and marketing of both soft drinks and frozen dairy products indicate that inter-regional shipments of the finished products would be insignificant especially with compensating shipments across regional lines.

Inter-regional shipments of sugar containing ingredients for bottled soft drinks and frozen dairy products account for wide differences between deliveries and consumption for certain regions. For instance, many local bottlers use a prepared sirup base for their product, adding other ingredients, sometimes more sugar, on the production line. The Middle Atlantic area produces a surplus of sirup for shipment to local bottlers in other regions.

Somewhat the same practice exists in the frozen dairy product industry. Two principal ingredients of frozen dairy products, ice cream mix and sweetened condensed milk, are shipped among regions for use by local ice cream makers.

The per capita delivery data adjusted for per capita consumption, using the conversions shown on Table 6, show a distinctly different regional per capita sugar use pattern than do deliveries without adjustment (see Table 7). The gap between the highest and lowest regions from the point of per capita sugar use is greatly reduced. The Middle Atlantic region yields first place to the West. The South gains 6 pounds in per capita consumption while per capita deliveries in New England are reduced 3 pounds. These two regions exchange relative positions and consumption in New England averages the lowest of all regions. Per capita consumption in the North Central region increases about 2-1/3 pounds. The South and North Central regions would show larger average per capita consumption if reports of deliveries by types of buyer covered as high a proportion of actual deliveries as they do for the other regions.

Conclusions

Although per capita consumption of sugar in the United States remains remarkably steady from year to year at approximately 97 pounds, there is strong evidence of some variation from region to region. It is clear that further refinement of per capita delivery data through adjustment of inter-regional shipment of canned food and jams, multiple foods and non-food products would show an even different sugar consumption pattern than is shown on Table 7. The gap between the highest and the lowest regional per capita sugar use probably would be further reduced. For instance, the West receives over three times as much sugar per capita for canning, bottling and freezing food than any other region. (Table 4) Doubtless a large proportion of the canned and frozen foods are produced in surplus and consumed in other regions.

It appears likely that per capita consumption in New England, however, would continue to be lower than in the other regions, even if further refinement did tend to narrow the gap between high and low regional per capita consumption. Before adjusting deliveries for consumption of candy, beverages and frozen dairy products, New England was well below the national per capita delivery average. And the adjustment further reduced that region's actual consumption. The South's per capita consumption, while higher than New England's was also well below national average.

Table 6.- Per capita deliveries of sugar to selected types of food processors; per capita consumption of the principal sugar containing foods manufactured by these types of processors; and per capita sugar consumption represented by the proportion of sugar in these foods, by regions, 1949

	<u>New</u> <u>England</u>	<u>Middle</u> <u>Atlantic</u>	<u>North</u> <u>Central</u>	<u>South</u>	<u>West</u>	<u>U. S.</u> <u>Average</u>
Per capita sugar deliveries <u>1/</u>						
Confection manufacturers, pounds	13.99	19.50	8.96	1.96	4.13	8.61
Beverage manufacturers, pounds	5.70	12.34	6.85	12.52	6.49	9.60
Dairy product manufacturers, pounds	<u>3.32</u>	<u>4.90</u>	<u>3.09</u>	<u>1.66</u>	<u>2.85</u>	<u>2.99</u>
Total in above products, pounds	23.01	36.74	18.90	16.14	13.47	21.20
Per capita consumption of:						
Confections, pounds <u>2/</u>	18.88	17.76	19.18	14.23	19.72	17.41
Soft drinks, 7 oz. bot. <u>3/</u>	134.25	116.45	147.99	226.20	118.95	162.00
Frozen dairy products, gal. <u>4/</u>	4.12	4.84	4.63	3.10	4.53	4.19
Per capita consumption of sugar in:						
Confections, pounds <u>5/</u>	9.16	8.61	9.30	6.90	9.56	8.44
Beverages, pounds <u>6/</u>	7.63	6.62	8.42	12.86	6.77	9.21
Frozen dairy products, pounds <u>7/</u>	<u>3.13</u>	<u>3.64</u>	<u>3.52</u>	<u>2.38</u>	<u>3.41</u>	<u>3.21</u>
Total in above products, pounds	19.92	18.87	21.24	22.14	19.74	20.86
Variation in per capita consumption, pounds	-3.09	-17.87	+2.34	+6.00	+6.27	-0.34

1/ Sugar Branch, P.M.A. 2/ Data represent confectionery manufacturers' sales, by regions. Source: Confectionery Sales and Distribution, 1949, U. S. Dept. of Commerce. Includes chocolate confections that compete with candy. Does not include chewing gum and powdered cocoa. 3/ Average per capita consumption from the American Bottlers of Carbonated Beverages. Does not include alcoholic beverages and fountain sirups. Regional data represent production and are based on the relationships shown in the 1947 Census of Manufacturers with the quantities increased in proportion to the increases in the national average. The American Bottlers of Carbonated Beverages reports that bottlers serve areas close to their plants and that inter-regional shipments would not be significant. 4/ Data represent production by dairy product manufacturers. Does not include sweetened condensed milk, butter, cheese, chocolate milk and miscellaneous dairy products. Source: B.A.L., U.S.D.A. Inter-regional shipment of frozen dairy products is probably greater than with beverages but the

Table 6.- Per capita deliveries of sugar to selected types of food processors; per capita consumption of the principal sugar containing foods manufactured by these types of processors; and per capita sugar consumption represented by the proportion of sugar in these foods, by regions, 1949 (Continued)

regions are assumed to be broad enough that, as indicated by Dairy Branch, P.M.A., U.S.D.A. and other agencies concerned with dairy products, these figures are an approximation of per capita consumption. 5/ Sugar component calculated at 48.5 percent of finished product. 6/ Sugar component calculated at 13.0 percent of finished product. 7/ Sugar component calculated at 15.0 percent of ice cream and ice milk and 29.0 percent of milk sherbet, water ices and other frozen dairy products.

Table 7. - Per Capita Deliveries of Sugar Adjusted for per Capita Consumption of Sugar in Confectionery, Beverages, and Frozen Dairy Products, by Regions, 1949 1/

Region	Per capita deliveries	Per capita deliveries adjusted to more nearly approximate per capita consumption <u>2/</u>		Difference
	(pounds refined)		(pounds refined)	
New England	86.58	83.49	- 3.09	
Middle Atlantic	114.15	96.28	-17.87	
North Central	90.06	92.40	+ 2.34	
South	79.85	85.85	+ 6.00	
West	95.09	101.36	+ 6.27	
Total	92.17	91.83	- .34	

1/ Represents 96-97 percent of deliveries by primary distributors in continental United States. Unrecorded 3-4 percent centered mostly in South and North Central Regions.

2/ Represents deliveries of sugar for Bakery and Allied Products, Canned and Bottled Foods and Jams, Multiple Food Uses, Non-food Products, Restaurants and Hotels, Wholesale, Retail, and All other and Approximate Per Capita Consumption of sugar in Confectionery and Related Products, Beverages and Frozen Dairy Products.

SOURCE: Sugar Branch, PMA, USDA

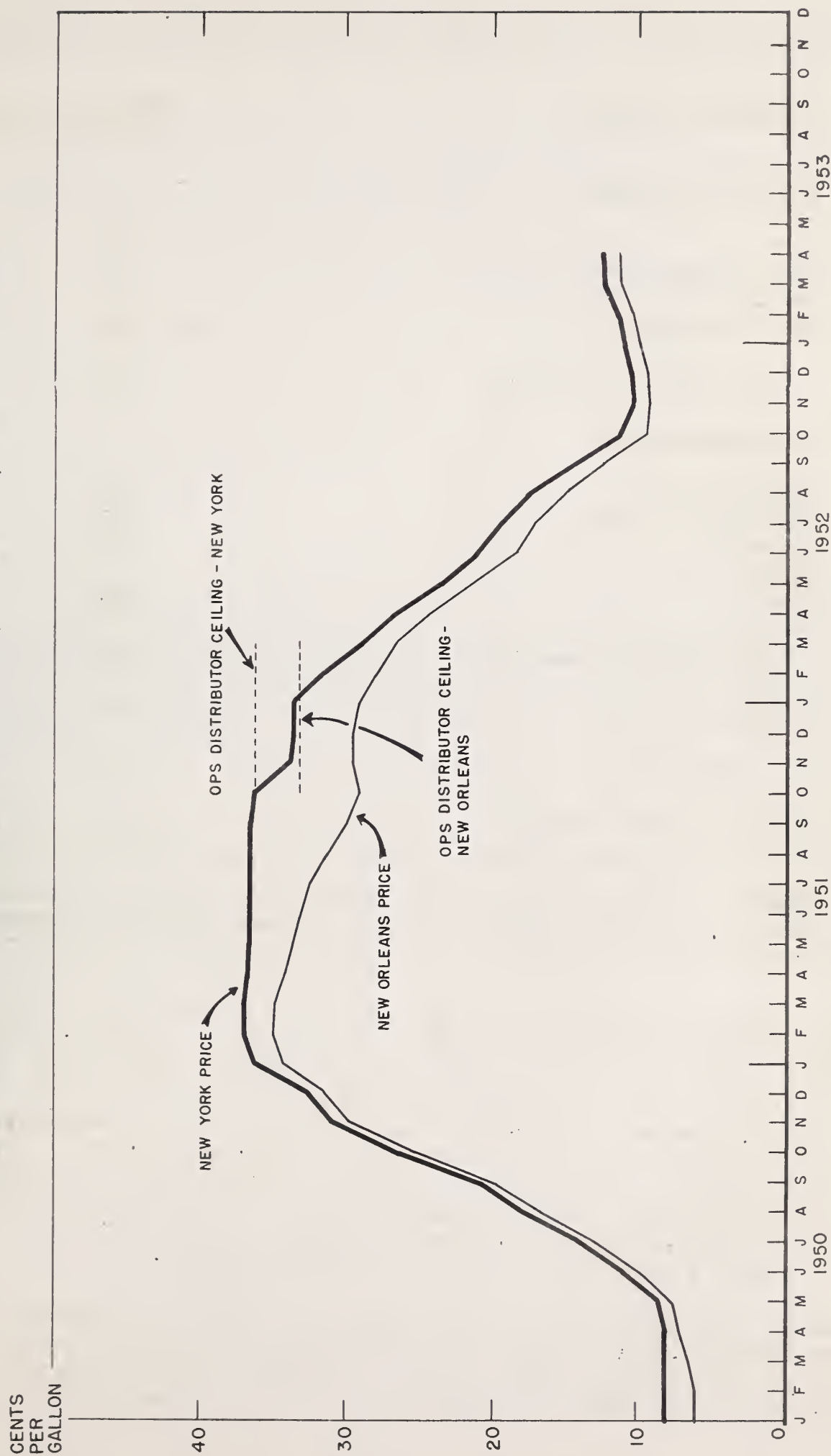
Industrial Molasses Market

This represents a review of developments which have occurred in the molasses market since the issuance of "Sugar Reports" No. 16-M, October, 1952.

Molasses prices declined steadily during 1952 from the high level prevailing in 1951 (annual average of 30.5 cents per gallon, New Orleans) and reached a low of 9.0 cents per gallon f.o.b. tankcar at New Orleans in October, 1952 (figure). A record Cuban crop, the closing of alcohol butadiene plants by the R. F. C., and declining alcohol prices contributed to the decline in molasses prices. By the second week in March, 1952 the price had recovered to a level of 11.5 cents per gallon. In April in anticipation of the normal slack season during the summer months, prices declined to 11 cents per gallon. There are several factors which account for the relatively stable molasses market. Most available supplies are now in the hands of U. S. buyers, either alcohol producers or molasses distributors, with new crop molasses not expected until late fall and early spring. Consequently, there seems to be no pressure from producer supplies seeking a market, and the trade feels that the molasses market may experience a slight upward trend this fall, as the use of molasses in livestock feeds continues to increase. During the first three months of 1953, 71.2 million gallons of molasses were used for alcohol, which is 39.2 million gallons greater than during the same period in 1952. As a result of the reopening of four units of the Reconstruction Finance Corporation's synthetic rubber plants in November and December of last year, it is expected that the use of alcohol this year will continue well ahead of 1952, thus providing an additional market for the increased molasses supplies.

Cuba, our chief supplier of industrial molasses, produced a record crop of nearly 400 million gallons in 1952, and had a carryover of 30 million gallons from the 1951 crop. Of this 430 million gallons of available molasses in 1952, 100 million was set aside for local consumption leaving an exportable surplus of approximately 330 million gallons. Very little of this was sold during the first half of 1952 as U. S. buyers were unable to reach a price agreement with the Cuban Sugar Stabilization Institute. However, the situation was relieved in late 1952 when Cuba drastically reduced the asking price for 1952 crop molasses, and by the year's end the entire exportable surplus had been sold, together with 30 million gallons of the 1953 crop. As of December 31, 1952 there remained 212 million gallons sold but not yet delivered to U. S. buyers, but during the first quarter of 1953 much of the undelivered molasses had been received in the United States. These heavy shipments in the early months of 1953 are reflected in the large quantity of molasses supplies estimated to be available in 1953. Also included in this estimate are sales to U. S. buyers of 88 million gallons of the 1953 molasses crop during the first quarter of 1953.

MOLASSES, BLACKSTRAP; PRICE PER GALLON F.O.B. TANK CAR
NEW YORK AND NEW ORLEANS, BY MONTHS, 1950 - APRIL 1953



Total supplies of industrial molasses for 1953 are estimated at 612 million gallons or 83 million gallons more than 1952 supplies. Supplies from each source in that year and estimated supplies for 1953 are as follows:

<u>Source of Molasses</u>	<u>1952</u> (million gallons)	<u>1953</u>
<u>Offshore supplies</u>		
Cuba	187	315
Puerto Rico	52	25
Hawaii	38	35
Other countries	<u>1/ 109</u>	<u>100</u>
Total offshore supplies	386	475
<u>Domestic supplies</u>		
Mainland cane	52	45
Cane sugar refiners	36	35
Hydrol	18	18
Citrus	9	9
Beet	<u>33</u>	<u>35</u>
Total domestic supplies	148	142
Total supplies	534	617
Exports	<u>5</u>	<u>5</u>
Total supplies available	529	612

1/ Includes 28 million gallons from Dominican Republic, 22 million gallons from Mexico. Balance consists of lesser amounts from other countries.

Cuban blackstrap production is expected to be approximately 270 million gallons this year as a result of the restricted sugar crop in Cuba. This is 130 million gallons less than the record crop produced a year ago. Because of the comparatively small 1953 blackstrap crop, a few mills are making hi-test molasses, (sugarcane sirup from which no sugar has been removed), 10 million gallons of which has already been sold to U.S. buyers. It is estimated that about 15 million gallons of Cuban hi-test molasses will be produced this year for industrial use. This is included with the above figure of 315 million gallons expected from Cuba. Hi-test molasses is not normally produced in Cuba except in small quantities for edible purposes.

Molasses continues to be a very economical source of carbohydrates for live-stock feeding. Even though molasses prices have risen slightly since October 1952, and corn prices have decreased during the same period, corn prices in April were still \$1.03 per bushel higher than a feed-equivalent quantity of

molasses. Comparison is made on a feeding value basis; one bushel of corn being equivalent to about $6\frac{1}{2}$ gallons of molasses. The New York wholesale price of molasses and of No. 3 yellow corn was used in this comparison.

Estimated utilization of molasses by category of use is shown below for calendar year 1952. These data were developed by using published statistics on molasses utilization in alcohol plants and by estimating all other uses. Changes in stock positions are not considered.

Molasses used for:	<u>1952</u> (million gallons)
Ethyl alcohol	159
Butanol and acetone	8
Spirits and rum	3
Feed	294
Yeast, vinegar and citric acid	55
Edible and miscellaneous	<u>10</u>
Total utilization	529

No attempt has been made to estimate utilization by category of usage for calendar year 1953, however, supplies appear ample for all domestic requirements. As mentioned previously molasses use in the production of ethyl alcohol is currently well above last year's utilization, and its use in the manufacture of citric acid, yeast, vinegar and butyl alcohol will show a slight increase over the amounts used in 1952.

Sugar Market Review

Stability was the outstanding feature of the raw sugar market during the first five months of 1953. Stability in prices was undoubtedly partially a result of an orderly flow of sugar to East Coast and Gulf ports.

In spite of announcements of restrictions on 1953 sugar crops in Cuba and Puerto Rico, the outlook for excessive year-end stocks in both of these areas together with the proximity of the beginning of harvesting of the new crops resulted in a depressed market in the last two months of 1952 with raw sugar spot prices declining 70 cents per 100 pounds between October 21 and December 17, 1952. This declining trend in prices was reversed by mid-January. Receipts of raw sugar at East Coast and Gulf ports in the early weeks of the year were not excessive although stocks of raw sugar held by refiners located at these ports were at relatively low levels on January 1 and year-end stocks held in Cuba and Puerto Rico were rather large. This orderly flow of sugar was undoubtedly one of the major factors contributing to the general upward trend in raw sugar spot prices which got underway in mid-January.

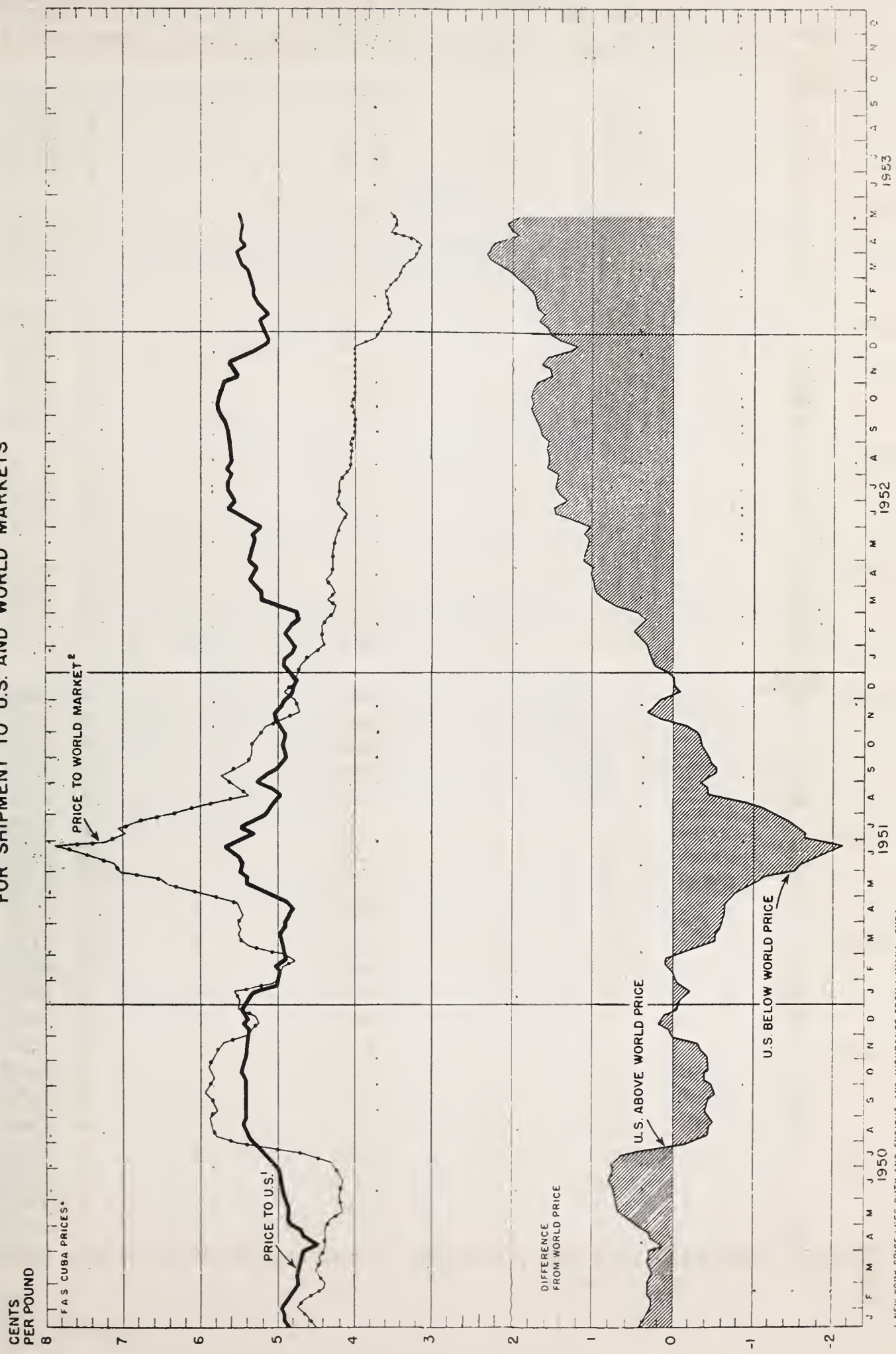
Total weekly receipts of raw sugar from Cuba, Puerto Rico and the Philippines have continued to be uniform since the first of the year and the upward trend in prices, although at a moderate rate, continued with practically no interruption until mid-March at which time duty-paid prices stabilized at between 6.35 and 6.45 cents per pound, remaining at this level until mid-May. The weight of several unsold afloat cargoes of Philippine sugar caused a decline to 6.30 cents per pound on May 12, but by May 27 the price had again increased to 6.40 cents.

Despite the stability in U. S. quota prices, the sharp decline in world sugar prices in late March and early April resulted in a spread of more than 2 cents per pound in comparable prices for the two markets for several weeks. The recovery of world prices since the second week in April has reduced this margin. (See figure 4)

Stability was even more apparent in July, September and November domestic futures contracts than in spot prices during the first five months of 1953. The highs for these contracts in 1953 were practically the same as the 1952 highs during comparable months. However, the difference between the high and low quotations in the first five months of the year for July, September and November contracts respectively were 26, 23 and 19 points in 1953 as compared to 49, 55 and 42 points in 1952.

Thus far in 1953 there has been a remarkable parallel in the pattern of distribution of refined sugar by primary distributors with the pattern followed in 1952. Differences experienced have been the result of variations in the effective dates of refined sugar price changes and by the end of each month these differences in distribution were substantially equalized. Refined cane sugar prices declined 15 cents per 100 pounds on January 19, 1953, to \$8.50 per 100 pounds, N. Y., and increased 25 cents per 100 pounds on March 13, 1953. In 1952, a decrease of 10 cents per 100 pounds became effective on January 21, an increase of 25 cents per 100 pounds became effective on March 12, and an additional 15 cents per 100 pounds increase was effective on April 1. The determination of Sugar Requirements of 7,800,000 short tons, raw value was announced on December 5, 1952, and a 100,000 ton increase in this determination was announced on April 10.

RAW SUGAR QUOTA PREMIUMS AND DISCOUNTS
WEEKLY COMPARISON, F.A.S. CUBA PRICES OF RAW SUGAR
FOR SHIPMENT TO U.S. AND WORLD MARKETS



1 NEW YORK PRICE LESS DUTY AND FREIGHT AND INSURANCE FROM HAVANA, CUBA
2 F.A.S. HAVANA, CUBA

TABLE 8-RAW SUGAR QUOTA PREMIUMS AND DISCOUNTS, COMPARISON OF
WEEKLY AVERAGE F.A.S. CUBA PRICES OF RAW SUGAR FOR
SHIPMENT TO U.S. AND WORLD MARKETS
(cents per pound)

Date	:	Prices to	:	Prices to	:	Difference from
	:	U. S. 1/	:	World Market 2/	:	World Market
<u>1952</u>	:		:		:	
Aug. 8	:	5.59	:	4.05	:	/ 1.54
15	:	5.60	:	4.05	:	/ 1.55
22	:	5.61	:	4.04	:	/ 1.57
29	:	5.61	:	4.06	:	/ 1.55
Sep. 5	:	5.63	:	4.00	:	/ 1.63
12	:	5.64	:	4.00	:	/ 1.64
19	:	5.69	:	4.00	:	/ 1.69
26	:	5.73	:	4.00	:	/ 1.73
Oct. 3	:	5.78	:	4.01	:	/ 1.77
10	:	5.78	:	4.04	:	/ 1.74
17	:	5.77	:	4.00	:	/ 1.77
24	:	5.73	:	4.00	:	/ 1.73
31	:	5.69	:	4.00	:	/ 1.69
Nov. 7	:	5.50	:	4.00	:	/ 1.50
14	:	5.53	:	4.00	:	/ 1.53
21	:	5.62	:	4.00	:	/ 1.62
28	:	5.53	:	4.00	:	/ 1.53
Dec. 5	:	5.29	:	4.00	:	/ 1.29
12	:	5.16	:	4.00	:	/ 1.16
19	:	5.11	:	3.72	:	/ 1.39
26	:	5.16	:	3.67	:	/ 1.49
<u>1953</u>	:		:		:	
Jan. 2	:	5.19	:	3.64	:	/ 1.55
9	:	5.23	:	3.58	:	/ 1.65
16	:	5.11	:	3.51	:	/ 1.60
23	:	5.21	:	3.55	:	/ 1.66
30	:	5.25	:	3.55	:	/ 1.70
Feb. 6	:	5.31	:	3.60	:	/ 1.71
13	:	5.31	:	3.57	:	/ 1.74
20	:	5.33	:	3.49	:	/ 1.84
27	:	5.34	:	3.40	:	/ 1.94
Mar. 6	:	5.36	:	3.39	:	/ 1.97
13	:	5.45	:	3.35	:	/ 2.10
20	:	5.50	:	3.21	:	/ 2.29
27	:	5.51	:	3.17	:	/ 2.34
Apr. 4	:	5.42	:	3.14	:	/ 2.28
11	:	5.46	:	3.23	:	/ 2.23
18	:	5.47	:	3.55	:	/ 1.92
25	:	5.44	:	3.43	:	/ 2.01
May 1	:	5.48	:	3.42	:	/ 2.06
8	:	5.49	:	3.54	:	/ 1.95
15	:	5.45	:	3.67	:	/ 1.78
22	:	5.42	:	3.75	:	/ 1.65

1/ New York Price less duty, freight, and insurance from Havana, Cuba.

2/ F. A. S. Havana, Cuba

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